

### **LISTING OF CLAIMS**

1. (currently amended) An isolated nucleic acid comprising a transcriptional unit encoding an engineered Japanese Encephalitis Virus (JEV) signal sequence, which engineered JEV signal sequence comprises SEQ ID NO:14, and an immunogenic flavivirus antigen of a flavivirus other than JEV, wherein the transcriptional unit directs the synthesis of the immunogenic flavivirus antigen.

2. CANCELLED.

3. (Previously presented) The nucleic acid of claim 1, wherein the immunogenic flavivirus antigen is of a flavivirus selected from the group consisting of yellow fever virus, dengue serotype 1 virus, dengue serotype 2 virus, dengue serotype 3 virus, dengue serotype 4 virus, Powassan virus and West Nile virus.

4. (Previously presented) The nucleic acid of claim 1, wherein the transcriptional unit encodes the engineered JEV signal sequence and an M protein and an E protein of West Nile virus.

5. (Previously presented) The nucleic acid of claim 1, wherein the transcriptional unit encodes the engineered JEV signal sequence and an M protein and an E protein of yellow fever virus.

6. (Previously presented) The nucleic acid of claim 1, wherein the transcriptional unit encodes the engineered JEV signal sequence and an M protein and an E protein of St. Louis encephalitis virus.

7. (Previously presented) The nucleic acid of claim 1, wherein the transcriptional unit encodes the engineered JEV signal sequence and an M protein and an E protein of Powassan virus.

8. (Previously presented) The nucleic acid of claim 1, wherein the immunogenic flavivirus antigen is selected from the group consisting of an M protein of a flavivirus, an E protein of a flavivirus, both an M protein and an E protein of a flavivirus, a portion of an M protein of a flavivirus, a portion of an E protein of a flavivirus and both a portion of an M protein of a flavivirus and a portion of an E protein of a flavivirus or any combination thereof.

9. (Previously presented) The nucleic acid of claim 8, wherein the immunogenic flavivirus antigen is both the M protein and the E protein of a flavivirus.

10. (Original) The nucleic acid of claim 1, wherein the nucleic acid is DNA.

11. (Original) The nucleic acid of claim 10, comprising a nucleotide sequence selected from the group consisting of SEQ ID NO:15, SEQ ID NO:19, SEQ ID NO:21 and SEQ ID NO:23.

12. (Previously presented) The nucleic acid of claim 1, wherein the transcriptional unit comprises a control sequence disposed appropriately such that it operably controls the synthesis of the immunogenic flavivirus antigen.

13. (Original) The nucleic acid of claim 12, wherein the control sequence is the cytomegalovirus immediate early promoter.

14. (Previously presented) The nucleic acid of claim 1, comprising a Kozak consensus sequence located at a translational start site for a polypeptide comprising the immunogenic flavivirus antigen encoded by the transcriptional unit.

15. (Original) The nucleic acid of claim 1 wherein the transcriptional unit comprises a poly-A terminator.

16. (Original) A cell comprising the nucleic acid of claim 1.

17. (Original) A composition comprising the nucleic acid of claim 1 and a pharmaceutically acceptable carrier.

18 - 27. CANCELLED.

28. (Previously presented) The nucleic acid of claim 1, wherein the immunogenic flavivirus antigen is a St. Louis encephalitis virus antigen.

29. CANCELLED.

30. CANCELLED.

31. CANCELLED.

32. (Previously presented) The nucleic acid of claim 1, wherein the immunogenic flavivirus antigen is a yellow fever virus antigen.

33. CANCELLED.

34. (Previously presented) The nucleic acid of claim 1, wherein the immunogenic flavivirus antigen is a dengue virus antigen.

35. CANCELLED.

36. (Previously presented) The nucleic acid of claim 1, wherein the immunogenic flavivirus antigen is a West Nile virus antigen.

37 - 43. CANCELLED.